Introducing ...

Toxchem™ 4.3

New Unit Processes

MBR – A new air emission model has been developed for a membrane bioreactor that considers the effect of the coarse bubble backwash of membranes.

Weir – This process is provided as a unit for estimating air emission losses of organic compounds as water drops over a V-notch (saw-tooth) weir.

Bar Screen – The energy dissipation in the bar screen process can cause turbulence and eddies resulting in air emissions.

Water Scrubber – This process has been added to transfer an organic contaminant from an air stream to a water stream.

Floating Roof Tank – The model for this process tank assumes that the emission source is the exposed clingage of a water/oil layer adhering to the periphery of the tank wall, which results when the floating roof moves downward as liquid is withdrawn from the tank.

Closed Surge Tank – The closed surge tank is a vessel in which the volume of tank changes over time. Air emissions result when the water level rises.
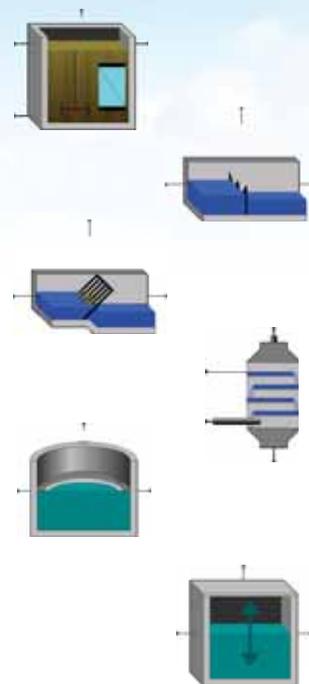
Emission Modeling from Oil Layer

The issue of modeling of air emissions of organic compounds from a non-aqueous layer floating on a water surface is of growing concern. Originally, Toxchem was intended to predict the fate of contaminants in wastewater. However, in certain specific industries such as petroleum refining, it is possible that the surface of the wastewater in collection or treatment process units may be covered by a floating layer of oil, assumed to be of hydrocarbon origin. This new version allows estimates of emission rates from a floating oil layer.
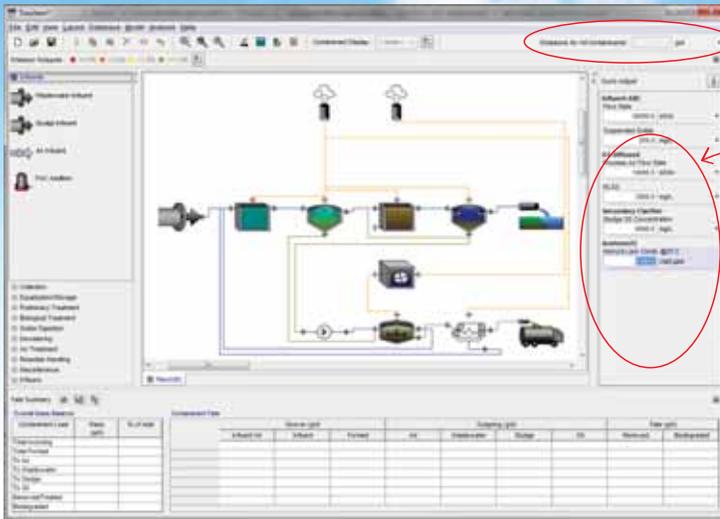
Hydromantis
Environmental Software Solutions, Inc.

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Added Features

Emissions for All Contaminants – The sum of the emission masses of ALL contaminants in the layout at ALL air effluent locations is now displayed for quick examination. This value is also available in a new output table.


Quick Adjust Panel – The properties of user-defined contaminants can now be added to the Quick Adjust Panel to allow faster analysis of the affects of each property on emission values.
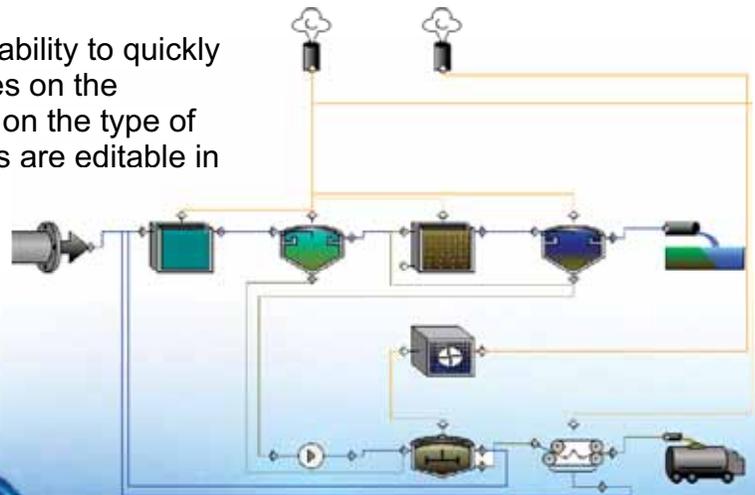
Archive Layouts – This new feature will bundle any user-defined contaminants that are used in a layout with the layout file so that you can easily send it to a colleague and they can open the layout and be assured that they are using the exact same parameters.

Expanded Back Solver Options – Now you can solve for several different stream states instead of just contaminant concentrations.
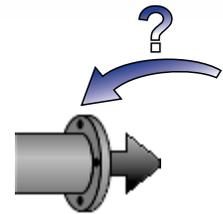
Coloured Connection Lines – To enhance the ability to quickly understand the flow diagram, the connection lines on the drawing board are now colour-coded depending on the type of stream (wastewater, air, oil, sludge). The colours are editable in the user preferences.

+ much more.

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